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Amendments To the Specification:

Please amend the specification as indicated below. The paragraphs to be amended are identified by the paragraph numbers shown in the US publication of the specification, US 2005/0066241 A1.

[0026] A concept of the invention involves the continuously collecting of data in a manufacturing system to get a sound base for a predictive recognition of errors. For example this data collection can be accomplished by online capturing and monitoring data coming from automation components or automation applications from all layers of the automation hierarchy (see Figure 1). Advantageously the monitored data can be densified using statistical methods or data mining mechanisms to focus them and to reduce the amount of data. Structure information regarding the data based on the automation hierarchy or based on the topology of a plant (e.g. the break down in plant / line / cell / station) can also be used to reduce the amount of the monitored data. Furthermore a condensation of the monitored data can be achieved by functional containment to involved components or applications. The monitored data can be stored in a data base 2. This data base can be implemented as a ring ~~puffer~~ buffer. The monitoring of the data of the manufacturing system can be accomplished in real-time. Real-time monitoring comprises monitoring in a couple of seconds or monitoring the data instantaneously. Furthermore real-time monitoring enables an online monitoring, which can be accomplished advantageously via the Internet.

[0029] Another ~~advantageously~~ advantageous concept of the invention is the learning and ~~continuously~~ continuous improving of error ~~pattern~~ patterns. If an error occurs, automatically an error pattern will be derived form the history of the error. The data ~~arised~~ arising in the run-up of the error (e.g. trends, changes, etc.) will be analyzed using statistical methods and data mining mechanisms to define a minimal but sufficient error pattern. The error pattern can be stored in the data base 2.

[0045] Figure 2 shows exemplarily the integration of components of different layers of a manufacturing system. For example, the applications of the different layers (ERP, MES, controls) can be integrated by the use of a framework 3. The framework 3 integrates the ERP-, MES- and controls-applications and also ~~an~~ a user workstation 1 and also a data base 2. The workstation 1 typically comprises output devices (e.g. monitor, displays, printer), input devices (e.g. mouse, keyboard), processor and memory facilities. For example, the applications can be connected to the framework 3 via adapters or wrappers. The applications and the framework 3 can run on dedicated ~~own~~ computers or processors, or they can run on the workstation 1. On the workstation 1 can also run the mechanism for online monitoring of data of the manufacturing system~~,~~ and the mechanism for online comparing the data coming from the components of the automation layers with archived error patterns to predict errors supposed to occur in the manufacturing system. Advantageously the comparison is performed by statistical methods. The archived error pattern can be stored in a data base 2 connected to the framework 3. Advantageously the data base 2 can be used as a ring ~~puffer~~ buffer to store the monitored data.

[0050] Figure 4 shows a flowchart for an exemplary embodiment of the invention. The stage installation 4 comprises ~~the~~ establishing the necessary communication connections to receive the data from the components or the applications and setting of parameters, for example the size of the ring ~~puffer~~ buffer of the data base 2.